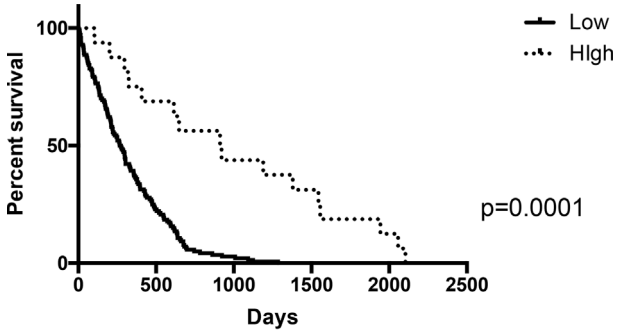

N=160 patients
All histological subtypes
VISTA +ve defined as >5% per core

Abstract S45 Figure 1 Survival proportions: VISTA

sought to determine the impact of VISTA expression on survival in 'all-comer' patients with MPM.

Methods Tissue microarray blocks from 161 MPM patients of all histological subtypes were obtained from MesobanK (Papworth Hospital). VISTA, CD8, CD163 and CD68 immunohistochemical staining was performed. Kaplan–Meier survival curves were used to estimate survival on the basis of levels of VISTA and other immune cells and were compared with the log-rank test. Cutoff values to define subgroups were the 25th or 50th percentile, i.e. the top 25th or 50th percentile was defined as high level and all others were defined as low level.

Results VISTA expression was detected in all MPM cases (n=160), comprising epithelioid (n=101), biphasic (n=38) and sarcomatoid (n=21). VISTA positivity was demonstrated in both tumour and immune cells. Kaplan-Meier curves demonstrated that patients with overall VISTA 'high' staining showed prolonged median survival than those with VISTA 'low' expression in all histological subtypes (916.5 days vs 274 days, p<0.0001). Immune infiltrating cell populations were quantified: CD163 'high' populations were associated with a poorer median survival; however there was no significant correlation between VISTA, CD8+, CD163, and CD68 status and survival outcome.

Conclusions To our knowledge this is the first study to analyse VISTA protein expression in a large cohort of MPM patients. We found that median survival is significantly higher in VISTA-'high' cohorts and is not influenced by CD8+ or macrophage status. Further studies should explore the mechanisms of VISTA effect in the context of tumour/stromal immunity in MPM.

S46 EVALUATION OF PHOSPHORYLATED 70S6K EXPRESSION IN MALIGNANT PLEURAL MESOTHELIOMA AND ITS ASSOCIATION WITH PATIENT SURVIVAL

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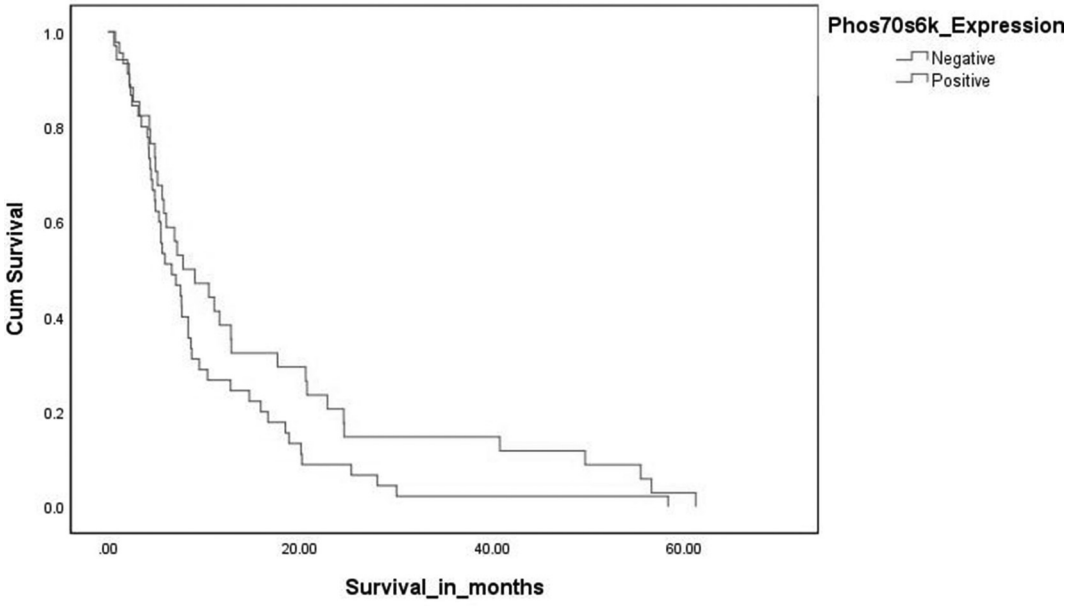
Introduction and objective Dysregulation of Mammalian target of rapamycin pathway has been shown in various cancers. Phosphorylated 70S6k is a vital downstream signalling protein of this pathway, dysregulation of this protein has also been linked to various malignancies and potentially to patient survival.

In this study, we aimed to investigate the expression of phosphorylated 70S6K in MPM and evaluate its relationship with patient survival.

Methods We performed immunohistochemical analysis on archival MPM tissue samples to examine the expression of phosphorylated 70S6K. Western blot analysis was also performed to evaluate the expression this protein in MPM cell lines.

Histopathological and clinical data of relevant patients were obtained from Hull Royal Infirmary. Univariate analysis was



Abstract S46 Figure 1 Survival function

performed for protein expression using Kaplan Meier survival curves with log rank analysis.

Multivariate Cox regression analysis taking histological subtypes into account was performed, to assess the effect of phosphorylated 70S6K expression on patient survival.

Results Our cohort consisted of total 79 archival MPM samples which included 43 Epithelioid, 24 Biphasic, and 12 Sarcomatoid MPM tissue samples. Of these 79 samples, 45 (57%) were found to be negative for Phospho 70s6K expression while 34 (43.%) showed positive expression.

A significant difference in expression of phospho 70s6K was found between MPM subtypes, on immunohistochemistry (p=0.01).

Phospho 70S6K protein was expressed in MSTO-211H and A549 cells, very weak expression in the NCI-H2452 cells was detected but none in the NCI-H2052 cell.

No significant difference in survival was found between patients who had positive and negative phospho 70s6K expression (p=>0.05).

Conclusion Our data suggest that phosphorylated 70S6K is expressed in MPM and there was a difference in expression of phospho 70s6K between MPM subtypes. No statistically significant association was found between phosphorylated 70S6K expression and patient prognosis.

S47 IMPACT OF NUMBER OF SAMPLING SITES AND SPECIMEN DIMENSION ON THE PERFORMANCE OF NUCLEAR GRADE AND GROWTH PATTERNS IN PREDICTING SURVIVAL IN EPITHELIOID MALIGNANT PLEURAL MESOTHELIOMA: A SINGLE INSTITUTION REVIEW OF 614 CASES

[1]YZ Zhang, [2]C Brambilla, [3]PL Molyneaux, [2]A Rice, [2]JL Robertus, [4]S Jordan, [4]E Lim, [5]L Lang-Lazdunski, [4]S Begum, [4]M Dusmet, [4]V Anikin, [4]E Beddow, [4]J Finch, [4]N Asadi, [6]S Popat, [1]WOC Cookson, [1]MF Moffatt, [2]AG Nicholson. *[1]National Centre for Mesothelioma Research, National Heart and Lung Institute, Imperial College London, London, UK; [2]Department of Histopathology, Royal Brompton And Harefield NHS Foundation Trust, London, UK; [3]National Heart and Lung Institute, Imperial College London, London, UK; [4]Department of Thoracic Surgery, Royal Brompton And Harefield NHS Foundation Trust, London, UK; [5]Lung Centre, BUPA Cromwell Hospital, London, UK; [6]Department of Medicine, Royal Marsden Hospital NHS Foundation Trust, London, UK*

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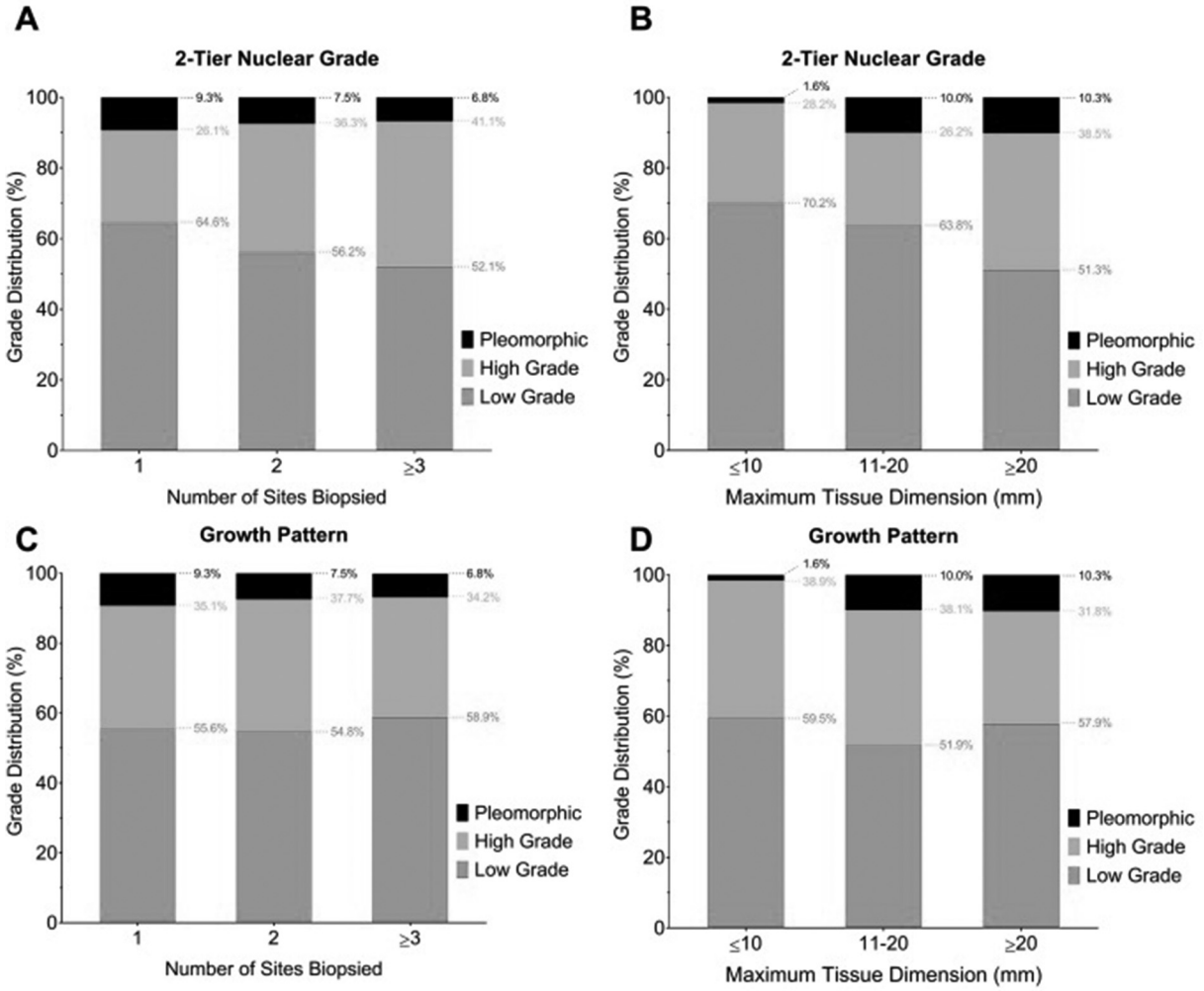
Introduction There is limited evidence regarding the optimal number of sampling sites and specimen dimension in histological diagnosis of malignant pleural mesothelioma (MPM). Previously we have validated 2-tier nuclear grade as an independent predictor of survival in epithelioid MPM. This study evaluates the association between sampling parameters and the performance of 2-tier nuclear grade and growth pattern as survival predictors using a biopsy-heavy cohort.



Abstract S47 Figure 1